



WASHINGTON STATE DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE
4601 NORTH MONROE
SPOKANE, WASHINGTON 99205-1295

FINAL STATEMENT OF BASIS
FOR
AIR OPERATING PERMIT NUMBER 03AQER-5910, 1ST REVISION
VAAGEN BROTHERS LUMBER COMPANY
COLVILLE LUMBER MILL
COLVILLE, WASHINGTON

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LIST OF ABBREVIATIONS

AOP	Air Operating Permit
BACT	Best Available Control Technology
bf	Board feet
BTU	British Thermal Units
°C	Degrees Celsius
CAM	Compliance Assurance Monitoring
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
dscf	Dry Standard Cubic Foot
dscf/m	Dry Standard Cubic Foot per minute
Ecology	Washington State Department of Ecology
E.I.T.	Engineer in Training
EPA	United States Environmental Protection Agency
°F	Degrees Fahrenheit
FCAA	Federal Clean Air Act
ft ³	Cubic foot
gr/dscf	Grains per dry standard cubic foot
hr	Hour
lb	Pound
MMBtu	Million British Thermal Units
MRRR	Monitoring, Recordkeeping, and Reporting Requirement
NOC	Notice of Construction
NO _x	Oxides of Nitrogen
NSPS	New Source Performance Standard
O ₂	Oxygen
O&M	Operation & Maintenance
P.E.	Professional Engineer
PM	Particulate Matter
PM-10	Particulate Matter with aerodynamic diameter ≤ 10 micrometers
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
RM	EPA Reference Method from 40 CFR Part 60, Appendix A
scfm	Standard Cubic Feet per Minute
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
T	Temperature
TAP	Toxic Air Pollutant
TPD	Tons Per Day
TPY	Tons Per Year
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
w%	Percentage by Weight
yr	Year

Selected Emission Units – Annual Potential To Emit in Tons Per Year (tpy)

Emission Units	PM-10 (tpy)	CO (tpy)	NO _x (tpy)	SO ₂ (tpy)	VOC (tpy)
Hogged Fuel Boiler	2.32 ¹ 253.21* ²	184.4 ¹	99.47 ²	11.3 ³	7.69 ²
Natural Gas Fired Boiler	0.657 ³	9.59 ³	4.73 ³	0.079 ³	2.10 ³
Lumber Drying Kilns	3.00 ²	-	-	-	288.5 ⁴
Planer Baghouse	10.3 ⁵	-	-	-	-

* Indicates pre-controlled PM emissions from the hog fuel boiler (to which Compliance Assurance Monitoring is applicable).

1.0 Introduction

This document sets forth the legal and factual basis for the permit conditions in a FINAL Revised AOP issued by the State of Washington Department of Ecology for a lumber mill located in Colville, Washington. This document is called a “statement of basis” and is required by Washington State regulations [chapter 173-401 WAC]. A statement of basis does not contain enforceable permit conditions. Enforceable permit conditions are contained in the AOP itself.

2.0 Facility Identifying Information

- 2.1 Company Name -----Vaagen Brothers Lumber Company
- 2.2 Facility Name -----Colville Lumber Mill
- 2.3 Unified Business Identification Number----- 600-037-066
- 2.4 Facility Address -----565 West 5th, Colville Washington 99114
- 2.5 Mailing Address -----565 West 5th, Colville Washington 99114
- 2.6 Facility Contact-----Mr. Russ Vaagen, Plant Manager
- 2.7 Facility Contact Phone Number----- (509) 684-5071

3.0 Basis for Title V Applicability

Vaagen Brothers Lumber Company (Vaagen), Colville Lumber Mill, is subject to Title V, Air Operating Permit Regulations, due to emissions of carbon monoxide (CO) in excess of 100 tons per year. WAC 173-401-200(17)(b) identifies any source that directly emits or has the potential to emit one hundred tpy or more of any air pollutant as a major source. Major sources are required to obtain Title V permits under 173-401-300(1)(a)(i).

¹ Annual Potential to Emit (PTE) as calculated based on July 2001 source testing results and assuming 8,760 hours of operation.

² Annual PTE as calculated based on AP-42 emission factor and assuming 8,760 hours of operation or 159 million board feet dried.

³ Annual PTE values as submitted by the permittee as part of the AOP renewal application.

⁴ Annual PTE assuming production of 140 million board feet of wood with the highest VOC content based on NCASI factors for kilns #1-3. Kiln #4 PTE taken directly from NOC Order No. 05AQ-E139 1st Amendment.

⁵ PTE taken directly from NOC Order No. 04AQ-E137.

4.0 Attainment Classification

The facility is located in an area that is classified as attainment for all criteria pollutants as of February 2003.

5.0 Title V Facility Timeline

- 5.1** December 9, 1994 -----Initial Notification of Applicability of Title V AOP Program
- 5.2** December 3, 1997 ----- Original Title V AOP is issued (Order No. DE 97AQ-E158)
- 5.3** March 20, 2002 ----- Title V AOP Renewal application is deemed complete
- 5.4** December 3, 2002 -----Original Title V AOP expired
- 5.5** December 12, 2003 -----Final Renewal Permit Issued (Order No. 03AQER-5910)
- 5.6** January 1, 2004 ----- Order No. 03AQER-5910 Effective Date
- 5.7** December 14, 2004 ----- NOC Order No. 04AQ-E137 Issued for Replacement Planer
- 5.8** February 22, 2005 -----Vaagen Notified by Ecology of Future AOP Reopening
- 5.9** June 7, 2005 ----- Draft 1st Revision of AOP No. 03AQER-5910 Issued
- 5.10** June 10, 2005 -----Public Comment Period Begins
- 5.11** July 10, 2005 -----Public Comment Period Ends
- 5.12** July 14, 2005 ----- EPA Review Period Begins
- 5.13** August 31, 2005 -----EPA Review Period Ends
- 5.14** January 1, 2006 ----- Final Order No. 03AQER-5910, 1st Revision Issued & Effective
- 5.15** January 1, 2009 -----Order No. 03AQER-5910 Expiration Date

6.0 Facility Description

6.1 The information provided in this narrative, and the accompanying site plans and process flow diagrams, are for background purposes. The facility description has been separated into six major sections: General Facility Description, Log Storage and Sawmill, Lumber Drying (Dry Kilns), Planer Mill, Powerhouse, and Maintenance and Miscellaneous.

6.1.1 *General Facility Description* – The Vaagen Brother Lumber Company is located at 565 West Fifth in Colville, Stevens County, Washington. The facility covers 80 acres, of which approximately half, or 40 acres, is used primarily to produce lumber and generate electricity. The active portion of the facility encompasses log storage, log preparation, a sawmill with one debarking-and-sawing line, kilns for drying and curing rough (green) lumber, a planer mill for finishing the lumber, a powerhouse for supplying steam, and turbines that convert some portion of the facility's steam to electricity. Repair and maintenance facilities for vehicles and equipment are also located at the facility. Wood residues (hog fuel, chips, shavings, and sawdust) from the sawmill and planer mill operations are collected and either used on site as boiler fuel or sold and shipped off site in trucks or rail cars. A site plan of primary operational units at the mill is included in Appendix A.

6.1.2 *Log Storage and Sawmill* – Raw logs are delivered by truck to the mill where they are unloaded into the log storage yard. Incoming logs are sorted by size, checked for metal contaminants such as spikes or wire fencing, assessed in terms of trueness and overall quality, and then stored in segregated piles prior to being processed. The mill

utilizes a large crane rather than vehicles, to move the logs about the storage area and to transport them to the sawmill.

Logs to be cut into lumber are first debarked at the debarker located inside the sawmill. Bark from the debarking process is transported via conveyers to the hog which pulverizes it into a smaller material, called hog fuel, which is stored either in a silo or on the ground by the powerhouse for use in the mill's hogged fuel boiler or for sale to outside parties. The sawmill building contains a doublecut bandsaw and a hewsaw that is used to saw debarked logs into dimensional lumber. Much of the lumber is dried in the mill's kilns, but some is sold rough (as is) from the sawmill.

Sawdust from sawing operations is transferred by conveyor to a storage bin that holds the material until it is loaded into trucks and transferred to points of sale. Larger wood residue from the saws is chipped in chippers (located outside the hewsaw building and in the sawmill basement), screened (with oversized material being re-chipped), and transferred via conveyor to temporary storage prior to sale and transfer off site. Hewsaw building chips are conveyed to a bin that unloads into truck trailers while sawmill chips are conveyed directly into railcars. Alternatively, sawmill chips can be rerouted to a chip bunker near the railroad tracks that provides for surge capacity. Chips from the bunker are loaded into truck trailers by means of a front-end loader.

6.1.3 *Lumber Drying* – Rough, green lumber from the sawmill that is not sold is transferred to the mill's four double track lumber kilns and stacked onto carts that are wheeled into the kilns. Non-contact steam from the powerhouse heats the kilns to drive off moisture, bringing the moisture content of the lumber down to approximately 20 percent or less. After drying, the lumber is pushed from the kilns and allowed to cool outdoors or in the dry shed.

6.1.4 *Planer Mill* – Dried lumber is transferred to the planer mill where an 8 roll planer (installed in 2005) surfaces it to specified sizes. Planer exhaust is routed through a product recovery cyclone followed by a baghouse. Surfaced lumber is graded for quality and sent to trim saws which remove flaws in the finished lumber. Finished lumber is sorted by length, packaged, and stored in a lumber warehouse on site. Planer shavings are transferred via blow pipe to either the storage silo by the powerhouse or the truck bin located mid-mill by the chip and sawdust bins. The storage silo supplies dry shavings to the powerhouse when needed, while the truck bin stores shavings prior to sale and transfer off site. Both the silo and the bin are equipped with cyclones for the transfer operations and the shavings are treated with a misting system in order to reduce emissions of particulate matter from which ever cyclone is in use. Trim from the trim saws is chipped in a chipper, screened (with oversized material being re-chipped), and blown into truck trailers. These trailers are hauled over near the chip bunker, and the chips are dumped into a pit that transfers them, via auger and conveyor, to the same railcar collection system that serves the sawmill.

6.1.5 *Powerhouse* – The mill's steam needs are met by two boilers: a 60,000 pound-per-hour Nebraska hogged fuel boiler installed in 1978, and a 20,000-pound-per-hour boiler natural gas boiler installed in 1975. The larger of the two is the primary boiler for the facility, producing high-pressure steam to operate the turbines. This boiler is controlled by a multiclone and ESP, which was added in 1998. After the turbines use the steam, a lower-pressure steam extraction is completed for use at the kilns to dry

the lumber. The primary boiler system has the capability to operate the turbines even when the kilns are down, and vice versa. The smaller boiler is used to supplement the larger boiler in the winter months and replace it during maintenance outages, supplying low pressure steam directly to the kilns. All hogged fuel required is generated on site at the sawmill and planer mill.

- 6.1.6** *Maintenance and Miscellaneous* – A maintenance shop in the sawmill is used for general maintenance, including the sharpening of saw blades, while the planer mill houses a tool shop for more general maintenance. In addition, a truck maintenance shop provides service to mill vehicles. Miscellaneous sources at the facility encompass a range of units (e.g., facility roads) and activities (e.g., fuel storage and dispensing, finished lumber storage and shipping.)

7.0 Facility Emission Units/Processes

7.1 Facility Wide (Section 2.1 in AOP)

- 7.1.1** Point source emission units and/or processes specifically subject to the requirements in Section 2.1 of the AOP include the following:

7.1.1.1 Cyclone – Planer shavings cyclones

7.1.1.2 Lumber Drying Kilns #1-3

7.2 Hogged Fuel Boiler (Section 2.2 in AOP)

7.3 Natural Gas Fired Boiler (Section 2.3 in AOP)

7.4 Dry kiln #4 (Section 2.4 in AOP)

7.5 Baghouse – Planer shavings (Section 2.5 in AOP)

8.0 Insignificant Emission Units and Activities

- 8.1** The permittee proposed numerous insignificant emission units as categorically insignificant based on the requirements outlined in WAC 173-401-532. A list of these units is on file with the Department of Ecology's Eastern Region Office, Air Quality Program in Spokane, Washington.

- 8.2** The following insignificant emission units were proposed by the permittee in the Title V Renewal Application materials submitted to Ecology and have been found by Ecology to meet the requirements outlined in WAC 173-401-533 as insignificant on the basis of size or production rate.

8.2.1 One diesel storage tank of 15,400 gallons, two gasoline storage tanks of 300 gallons each, and one propane storage tank of 500 gallons. Operation, loading and unloading of VOC storage tanks (including gasoline storage tanks), ten thousand gallons capacity or less, with lids or other appropriate closure, vp not greater than 80 mmHg at 21°C.

8.2.2 Eight natural gas heaters having heating values of 400,000, 360,000, 350,000, 324,000, 2@250,000, 88,000, and 30,000 BTU/hr. Combustion source less than five million BTU/hr, exclusively using natural gas, butane, propane and/or LPG.

9.0 Comments and Corresponding Responses

- 9.1** Comments received during the public comment period and EPA review period are on file at Ecology's Eastern Region Office in Spokane, along with Ecology's response to the comments.

10.0 Applicable and Inapplicable Requirements Determinations/Explanations

- 10.1** Initial or one-time NOC requirements that have not been included in the AOP as ongoing applicable requirements.

10.1.1 Order No. DE 97AQ-E137, Approval Condition 4.13, Source testing using RM 5 (filterable PM), RM 202 (condensable PM) and RM 10 (carbon monoxide) shall be conducted by August 1, 1998.

10.1.1.1 This testing occurred on July 21-22, 1998. The test report was received by Ecology on August 19, 1998 and is located in the facility source testing file at Ecology's Eastern Regional Office in Spokane, Washington.

10.1.2 Order No. DE 78-495, Approval Condition 1, A source testing will be completed and a copy of the report sent to the Department of Ecology, Eastern Regional Office within ninety (90) days of the boiler becoming operational.

10.1.2.1 This testing occurred on July 16, 1980. The test report was received by Ecology on August 6, 1980 and a summary sheet is located in the facility source testing file at Ecology's Eastern Regional Office in Spokane, Washington.

10.1.3 Order No. DE 97AQ-E137, Approval Condition 6.2, A copy of the opacity CEMS quality assurance procedures shall be submitted to Ecology for approval within 90 days of installation of the ESP.

10.1.3.1 The QA manual for the opacity meter was received by Ecology's Eastern Regional Office in Spokane on August 31, 1998 and is located within the facility "O&M Manual" file.

10.1.4 Order No. DE 97AQ-E137, Approval Condition 6.3, The ESP Ash Handling and Disposal Plan shall be developed and a copy sent to Ecology for review within ninety (90) days of installation of the ESP.

10.1.4.1 In a letter dated 08/15/98 and received by Ecology on 08/20/98, from Mr. Richard Kester of CH2MHill, consultant to the permittee, the ash handling and disposal plan is described. The plan is updated in a letter dated 10/11/02 from Mr. Robert Heater of Vaagen Brothers Lumber.

10.1.5 Order No. DE 97AQ-E137, Approval Conditions 7 (various components) and 9.3, Per the stipulation and settlement agreement, Part 6-Future Vaagen Actions, the permittee shall meet the action items and dates per the following compliance schedule:

- 1-certified progress report submitted by November 15, 1997,
- 2-shop fabrication (of the ESP) completed by April 1, 1998,
- 3-certified progress report submitted by May 15, 1998,
- 4-field erection (of the ESP) completed by June 1, 1998,
- 5-start up completed by July 1, 1998, and
- 6-compliance test completed by August 1, 1998.

Note – All dates except for the two progress reports were based on the assumption that Ecology would issue the approval Order by September 30, 1997. Order No. DE 97AQ-E137 was issued on September 18, 1997.

10.1.5.1 Per the facility files, each action as listed above was completed and documented as follows:

1-certified progress report #1 was received by Ecology on November 13, 1997,

2-shop fabrication was certified as complete by 4/1/98 in May report,

3-certified progress report #2 was received by Ecology on May 15, 1998,

4 & 5-correspondence received by Ecology on June 24, 1998 states that the ESP has been installed and is operational, and

6-compliance testing took place on July 21-22, 1998 and the report was received by Ecology on August 19, 1998.

10.1.6 Order No. DE 88-E172, Approval Condition 4, The permittee shall submit to Ecology any ESP voltage-current curves conducted by the vendor during startup testing.

10.1.6.1 The air load curves are included in the source test report received by Ecology on August 19, 1998 and conducted on July 21-22, 1998.

10.1.7 Order No. DE 98AQ-E132, Approval Conditions 5, 5.1, 5.1.1, 5.1.2, Within 60 days of achieving the maximum (steam) production rate at which the boiler will be operated following conversion to a low-NO_x burner, testing for CO and NO_x emissions concentrations shall be conducted by either performing EPA reference methods 7 for NO_x and 10 for CO or by startup acceptance testing using a combustion analyzer or equivalent.

10.1.7.1 The report documenting the test results was received by Ecology's Eastern Regional Office on March 31, 1999. An additional copy of the test results was submitted dated 1/14/03.

10.1.8 Order No. DE 98AQ-E132, Approval Condition 4, A site specific O&M manual shall be developed for the natural gas fired boiler. The manual shall be completed within 180 days of issuance of Order No. DE 98AQ-E132 and shall be subject to Ecology approval.

10.1.8.1 The O&M manual was received by Ecology's Eastern Regional Office on March 31, 1999 and is located in the facility files.

10.1.9 Order No. DE 98AQ-E132, Approval Condition 6.5, The permittee must notify Ecology prior to the startup of the converted natural gas boiler for production.

10.1.9.1 In an inspection letter to the permittee from Mr. Ted Hamlin of Ecology dated April 29, 1999, the fact that the natural gas boiler had been successfully converted and source tested. Notification from the permittee stating that actual startup of the boiler for production occurred on March 23, 1999 was sent to Ecology on March 25, 1999.

10.1.10 Order No. 04AQ-E137, Approval Condition 6.1, The Order becomes invalid if: construction does not commence within eighteen (18) months of receipt of the final renewal permit, construction is discontinued for eighteen (18) months or more, or construction is not completed within a reasonable time.

- 10.1.10.1** As of the date of this FINAL 1st Revision, construction of the replacement planer is complete.
- 10.1.11** Order No. 05AQ-E139, Approval Condition 4.1, The Order becomes invalid if: construction does not commence within eighteen (18) months of receipt of the final renewal permit, construction is discontinued for eighteen (18) months or more, or construction is not completed within a reasonable time.
- 10.1.11.1** Construction of kiln #4 has been completed. A status report was provided by Mr. Don Curry during a May 24, 2005 meeting at Ecology's office in Spokane.
- 10.2** The following NOC requirements clarified miscellaneous issues with regard to the applicable emission unit and were not, in actuality, approval conditions that require any action on the part of the permittee. These NOC requirements therefore have not been included in the AOP as ongoing applicable requirements.
- 10.2.1** Compliance Determination with respect to the 50 ton PM limit applying to Boiler No. 2 – Order No. DE 97AQ-E137, Approval Condition 5.1
- 10.2.1.1** This approval condition clarifies the calculational method that is to be used in order to determine the compliance status of the No. 2 Hogged Fuel Boiler with respect to the 50 ton per year PM emission limit. The method is as follows: The hourly emission rate for normal operation, soot blowing, and grate cleaning (front half catch, RM 5 only) from the most recent source test will be weight average to establish an hourly emission rate. The emission rate will be multiplied by the number of hours that No. 2 boiler was operated in a given year in order to calculate the total amount of PM emitted.
- 10.2.2** Order No. DE 97AQ-E137 – Approval Condition 6.3, Ash Handling and Disposal Plan-notification to Northeast Tri-County Health District.
- 10.2.2.1** This sentence within the approval condition notifies the permittee that ash handling and disposal as a solid waste requires notification and may require a solid waste permit.
- 10.2.3** Order No. 04-09, Issued January 3, 1974.
- 10.2.3.1** The requirements included in this Order set forth a compliance schedule regarding modifications and installation of the boiler No. 1 (originally fired using hogged fuel). The Order included the requirement to permanently shut down the wigwam burner at the Colville mill. All the requirements of this Order have been satisfied.
- 10.3** The following requirements were listed as applicable/applicable if triggered in the application, but have been determined to be inapplicable by Ecology for the reasons given. These regulations have therefore not been included in the AOP as ongoing applicable requirements.
- 10.3.1** RCW 70.94.161 Operating Permits for Air Contaminant Sources – The regulations included in RCW 70.94.161 are guidelines that apply to Washington State's Operating Permit Program and do not include specific requirements that apply to the source. This can be a source of confusion because Operating Permits include requirements that are authorized by Chapter 173-401 WAC. However, these requirements

- technically do not apply to the source until they are included in an Operating Permit.
- 10.3.2** WAC 173-400-075 Emission Standards for Sources Emitting Hazardous Air Pollutants – This regulation does not include any ongoing requirements that apply specifically to the permittee.
- 10.3.3** WAC 173-400-120 Bubble Rules – This regulation currently does not require any action on the part of the permittee. The permittee is not currently utilizing the bubble rules.
- 10.3.4** WAC 173-400-131 Issuance of Emission Reduction Credits – This regulation currently does not require any action on the part of the permittee. The permittee is not currently utilizing emission reduction credits.
- 10.3.5** WAC 173-400-136 Use of Emission Reduction Credits – This regulation currently does not require any action on the part of the permittee. The permittee is not currently utilizing emission reduction credits.
- 10.3.6** WAC 173-400-141 Prevention of Significant Deterioration – This regulation does not include any ongoing specific requirements for the permittee.
- 10.3.7** WAC 173-401-*** Various Sections of the Operating Permit Regulation – The regulations included in Chapter 173-401 WAC are the guidelines apply to Washington State’s Operating Permit Program and do not include specific requirements that apply to the source. This is can be a source of confusion because Operating Permits include requirements that are authorized by Chapter 173-401 WAC. However, these requirements technically do not apply to the source until they are included in an Operating Permit.
- 10.3.8** chapter 173-460 WAC Controls for New Sources for Toxic Air Pollutants – This regulation does not include any ongoing specific requirements that currently apply to the permittee.
- 10.3.9** 40 CFR 61 Subpart M NESHAPS for Asbestos – This regulation contains no ongoing applicable requirements that apply specifically to the permittee and therefore has not been included in the AOP as an ongoing applicable requirement.
- 10.4** The following requirements were listed as inapplicable in the AOP application, but have been determined to be applicable to the source at the time of permit issuance by Ecology. These regulations contain requirements that require action on the part of the source in an ongoing manner, and therefore have been included in the AOP as ongoing applicable requirements.
- 10.4.1** 40 CFR 64 Compliance Assurance Monitoring – The requirements of CAM apply to the mills hogged fuel fired boiler (boiler No. 2), and are included under Section 2.2 of the AOP.
- 10.4.2** chapter 173-425 WAC Open Burning – The open burning regulations apply generally, at all times, throughout the state, and so

- constitute ongoing applicable requirements that apply to the permittee.
- 10.4.3** RCW 70.94.743 Open Burning – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.
- 10.4.4** RCW 70.94.775 Open Burning – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.
- 10.4.5** RCW 70.94.970 CFC's – Specific requirements from this regulation apply generally statewide and have been included in the AOP.
- 10.5** The permittee included in their application several requirements for which they requested Ecology to determine inapplicability and grant the permit shield to the Colville sawmill. Except for the requirements listed in section 4 of the AOP, Ecology has not included any of the other requirements in the permit either as applicable or inapplicable. The intent of the permit shield is to address situations where there is a question of applicability. The requirements in section 4 of the AOP are good examples of requirements that reasonably might apply and for which an inapplicability determination is both useful and appropriate to document for the public record. Other requirements listed in the application either don't meet the definition of applicable requirement because they are requirements on Ecology, EPA, or a local regulatory agency rather than on the source or because they are obviously not relevant to the operations of a lumber mill. Including this long list in the permit as inapplicable would serve no purpose and could obfuscate the determination of inapplicability for the relevant standards by making it difficult for the public, EPA, and even the permittee to pick out and carefully evaluate the few standards which could truly be in question. Instead, each requirement has been included below, with a brief explanation of it's inapplicability to the permittee.
- 10.5.1** 40 CFR 68 Risk Management for Chemical Accidental Release – The permittee does not store the listed chemicals in amounts that exceed a threshold quantity.
- 10.5.2** 40 CFR 82 Protection of Stratospheric Ozone – The majority of the requirements included in this part do not apply to the permittee. However, subparts E (Labeling of Products using Ozone Depleting Substances) and F (Recycling and Emission Reduction) apply generally nationwide.
- 10.5.3** RCW 70.94.531 Transportation Demand Management – This section of the RCW governs commute trip reduction plans and their implementation and does not include any specific requirements that apply to the permittee.
- 10.5.4** RCW 70.94.610 Burning Used Oil in Land-Based Facilities – This law does no include any ongoing specific requirements for the permittee.
- 10.5.5** WAC 173-400-151 Retrofit Requirements for Visibility – The affected facility has not been identified as subject to this requirement.

- | | | |
|----------------|---------------------|--|
| 10.5.6 | chapter 173-422 WAC | <u>Motor Vehicle Emission Inspection</u> – This regulation inherently does not apply to this source. |
| 10.5.7 | chapter 173-470 WAC | <u>Ambient Air Quality Standards for Particulate Matter</u> – The permittee is not currently required to take any action under this regulation. |
| 10.5.8 | chapter 173-474 WAC | <u>Ambient Air Quality Standards for Sulfur Oxides</u> – The permittee is not currently required to take any action under this regulation. |
| 10.5.9 | chapter 173-475 WAC | <u>Ambient Air Quality Standards for Carbon Monoxide, Ozone, and Nitrogen Dioxide</u> – The permittee is not currently required to take any action under this regulation. |
| 10.5.10 | chapter 173-480 WAC | <u>Ambient Air Quality Standards and Emission Limits for Radionuclides</u> – The permittee is not currently required to take any action under this regulation. |
| 10.5.11 | chapter 173-481 WAC | <u>Ambient Air Quality and Environmental Standards for Fluorides</u> – The permittee is not currently required to take any action under this regulation. |
| 10.5.12 | chapter 173-490 WAC | <u>Emissions Standards and Controls for Sources Emitting VOC's</u> – The permittee is not located in an ozone nonattainment area or included in the WAC 173-490-030 listing. |

11.0 Monitoring, Recordkeeping, and Reporting Requirement (MRRR) Sufficiency Explanations – The following section provides brief discussions regarding the reasoning behind the MRRR's included as part of the AOP. The criterion is that each MRRR must be sufficient to assure compliance with the associated condition, emission standard or work practice.

- 11.1 MRRR 1M** – No specific monitoring can reasonably be required for these requirements. The nature of the requirements makes it necessary to rely on the good faith of the permittee to conscientiously monitor site operations and to promptly report any deviations.
- 11.2 MRRR 2M** – This monitoring is used for conditions that require the source to maintain a certain status quo (e.g., O&M manual accessible to employees in operation of the equipment; maintaining replacement parts for routine repairs to monitoring equipment). To assure compliance with these provisions, the permittee is simply required to check that there has been no change in the status quo. Since such a change is unlikely, an annual inspection was deemed adequate.
- 11.3 MRRR 3M** – This MRRR was designed to provide sufficient response to complaints regarding facility emissions affecting the landowners neighboring or in the affected vicinity of the facility. Timeframes were chosen to provide the permittee with adequate time to respond appropriately as well as ensuring that complaints not go unnoticed.
- 11.4 MRRR 4M** – A monthly visible emission observation is considered to be sufficient monitoring for general process units with regard to the opacity standard. The specifics of the monitoring described have been designed to provide relatively frequent evaluation of each potential emission point, while requiring visible emission testing using EPA RM 9 only when visible emissions are observed and cannot be eliminated within twenty-four (24) hours. The monitoring was designed with the goal of providing the permittee with sufficient opportunity to respond to upsets

appropriately while at the same time avoiding significant, prolonged environmental degradation. With regard to the use of visible emission evaluation surveys as a monitoring technique related to particulate matter standards, the method was chosen due to the fact that most of the general process units to which this is applicable are not large enough to justify performance testing using EPA RM's 5 and/or 202. Visible emission observations provide a convenient alternative method to source testing for the purpose of evaluating the performance of such units.

- 11.5** **MRRR 5M** – The monitoring has been designed to require periodic reviews of Operation and Maintenance manuals and other documents in order to evaluate whether current operational practices are being conducted in a manner consistent with the information upon which permitting has been based. The recordkeeping and reporting required ensure that practices which are not consistent with the submitted information will be addressed in a timely manner.
- 11.6** **MRRR 6M** – The monitoring as specified has been designed based on the condition that all associated equipment is maintained in proper working condition. Using emission factors in conjunction with operational parameters is a feasible method of estimating emissions from an emission unit for which performance testing may not be feasible. Provision of the relevant operational data by the permittee allows Ecology to evaluate emissions over the six month reporting period. The monitoring was designed with the goal of providing the permittee with sufficient opportunity to respond to upsets appropriately while at the same time avoiding significant environmental degradation.
- 11.7** **MRRR 7M** – This monitoring has been specified to include the estimation of emissions based on the use of emission factors, as described in 11.6 above. In addition, periodic source testing has been added to the monitoring due to the size of the emission unit.
- 11.8** **MRRR 8M** – This monitoring has been specified to rely on periodic source testing in order to gain a reasonable assurance of compliance with the various pollutant limits that apply to the hog fuel boiler. Source testing is the most reliable method for determining emissions, and due to the size of the emission unit, testing is deemed reasonable.
- 11.9** **MRRR 9M** – This monitoring has been specified to apply generally to units subject to Compliance Assurance Monitoring (CAM). The monitoring is included specifically as required by 40 CFR 64.
- 11.10** **MRRR 10M** – A Continuous Opacity Monitor provides real time opacity information. The monitor must be calibrated and maintained in accordance with the quality assurance procedures that have met with Ecology approval in order to ensure that the data produced is valid. Because of its nature, this type of monitoring is sufficient.
- 11.11** **MRRR 11M** – This MRRR outlines the details of required actions to be taken by the permittee in order to provide reasonable assurance of compliance with various operational limits. The primary reason that the actions described are considered sufficient is because they enable direct comparison between records and the operational limits.
- 11.12** **MRRR 12M** – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the ESP control system on the hogged fuel boiler updated.
- 11.13** **MRRR 13M** – The monitoring described is specifically applicable to the hogged fuel boiler for the purposes of Compliance Assurance Monitoring (CAM). Compliance Assurance Monitoring must be designed to provide reasonable assurance of compliance with emission limitations or standards for the pollutant specific emission unit. In order for a pollutant specific emission unit

(PSEU) to be subject to CAM, the three (3) conditions described below must be met. The manner in which they are met by the hogged fuel boiler is discussed below.

- 11.13.1** The PSEU must be subject to an emission limit for the applicable pollutant. In the case of the hogged fuel boiler, the PSEU is subject to multiple emission limits specific to particulate matter. These applicable requirements are included in Section 2.2 Hogged Fuel Boiler of the AOP.
- 11.13.2** The PSEU must utilize air pollution control equipment to reduce emissions of the applicable pollutant to a level that meets the established emission limit(s). In the case of the hogged fuel boiler, the particulate emissions of the PSEU are controlled by a multiple cyclone and a dry electrostatic precipitator (ESP).
- 11.13.3** The PSEU must have pre-controlled emissions of the specific pollutant that meet or exceed the major source thresholds established in WAC 173-401-200(17). In the case of the hogged fuel boiler, the pre-controlled emissions of particulate matter have been determined to be 253.21 tons per year (tpy). This exceeds the major source threshold of 100 tpy established in WAC 173-401-200(17).

The proposed CAM monitoring has been designed to rely on electrostatic precipitator (ESP) secondary voltage in conjunction with multiclone differential pressure. Through published information and consultation with ESP manufacturers in the past, secondary voltage was identified as the primary indicator of ESP particulate matter removal efficiency. The particular trigger limits were set based on data obtained during past source tests as well as manufacturer advice and engineering judgment.

- 11.14** **MRRR 14M** – This MRRR outlines the details of required actions to be taken by the permittee in order to provide reasonable assurance of compliance with various operational limits. The primary reason that the actions described are considered sufficient is because they enable direct comparison between records and the operational limits.
- 11.15** **MRRR 15M** – This monitoring has been specified to rely on periodic source testing in order to gain a reasonable assurance of compliance with the various pollutant limits that apply to the natural gas fired boiler. Source testing is the most reliable method for determining emissions and is required by the applicable construction permit.
- 11.16** **MRRR 16M** – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the natural gas fired boiler updated.
- 11.17** **MRRR 17M** – This MRRR outlines the details of actions required of the permittee in order to provide reasonable assurance of compliance with operational limits. The actions described enable direct comparison between records and operational limits.
- 11.18** **MRRR 18M** – The primary conditions applying to the baghouse are visible emissions and PM-10 outlet loading concentration. The provisions of this MRRR supplement the visible emissions monitoring required under **4M** by including a performance measurement directly tied to baghouse operation (differential pressure across the filter). The effect of these two monitoring approaches taken concurrently is to provide reasonable assurance that the baghouse is meeting its emission limits.

12.0 Streamlining Explanations

- 12.1** No applicable requirements underwent streamlining for purposes of this AOP.

13.0 Clarifications and Interpretations

- 13.1** Section 1 - Standard Conditions – For permit conditions required by Washington State regulations that have been included in the SIP, two dates are given. The first date is the date for the regulation that was adopted into the SIP. The second date is for the most up-to-date version of the regulation. State-only enforceable permit conditions are identified with the symbol (S).
- 13.2** WAC 173-401-620(1) – Acid Rain Provisions. The permittee is not an affected source as specified in the referenced section of the WAC. Due to this, no permit conditions relating to the acid rain provisions of the FCAA have been included in the AOP.
- 13.3** WAC 173-401-510(2)(h)(i) – Compliance Plan. At the time of permit issuance, no ongoing applicable requirements have been identified with which the permittee is not currently in compliance. However, this does not preclude Ecology from taking future action on past non-compliance.
- 13.4** Chapter 173-425 WAC, Open Burning – The requirements restricting open burning in the State of Washington apply to the source, and therefore Chapter 173-425 has been included as an applicable requirement under Section 2.1 Facility Wide Requirements. Additionally, Order No. DE 92AQ-E112 includes a permit condition that prohibits open burning on the facility site.
- 13.5** Condition 2.1.1 of AOP, Visible Emissions – WAC 173-400-040(1), (1)(a), and (1)(b) restrict visible emissions from all sources of air emissions throughout the source to 20% opacity for no longer than three (3) minutes in any one hour. While it is clear from the time periods contained within the regulation that Ecology Method 9A (“Source Test Manual – Procedures for Compliance Testing”, State of Washington, Department of Ecology, 07/12/90) was the test method intended to be used to verify compliance, this permit has specified EPA Reference Method 9 as the test method utilized as part of MRRR 4M. Ecology has determined that reasonable assurance of compliance with the regulation may be obtained by conducting RM 9 upon observance of visible emissions, as specified within 4M.
- 13.6** MRRR 7M and 8M of AOP – The correction for oxygen content as prescribed by 7M and 8M should be performed according to the method outlined in 40 CFR 60 Appendix A, Reference Method 19.
- 13.7** Maximum steaming rate for the No. 2 Hogged Fuel Boiler – Condition 1 of Order DE 78-495 requires that following the initial source testing, a maximum permitted steam generation rate would be determined in order to ensure that the annual emissions of particulate matter from the boiler does not exceed 50 tons. At the time of this Order, the control equipment on the boiler consisted only of the multiclone and thus the potential emissions from the boiler exceeded the 50 ton annual limit. Following the installation of the ESP in 1998, the potential emissions no longer exceeds 50 tons regardless of the steaming rate. Therefore, the requirement to establish a maximum permitted steam generation rate is obsolete.
- 13.8** Applicability of 40 CFR 60 Subpart Dc to the Natural Gas Fired (No. 1) Boiler – In 1998, the No. 1 boiler was converted from a hogged fuel fired configuration to natural gas firing by installation of a low-NO_x burner. On first glance, it appears that this conversion may be subject to subpart Dc since the new low-NO_x burner is rated at 30 million BTU/hr and the lower cutoff for Dc is 10 million BTU/hr. However, as part of the stipulation and settlement agreement between Ecology and the permittee (June 17, 1997), it was agreed that the conversion of the boiler would be reviewed under RCW 70.94.153 and would not constitute a modification with respect to subpart Dc because the project affects a net emission decrease.
- 13.9** Hogged Fuel Boiler Steaming Rate Averaging Period – NOC Order No. 97AQ-E137 imposes a steam production limit of 60,000 lbs/hr on the hogged fuel boiler (boiler #2), but does not specify

the averaging period over which this limit applies. Review of condition 1 of the referenced order identified the following statement.

“Production records are hereby defined as the monthly hours of operation of the Number 2 Boiler while operating the cogeneration turbine, and the monthly hours of operation of the Number 2 Boiler while not operating the cogeneration turbine, reported separately, and the total monthly steam production while operating the cogeneration turbine, and the total monthly steam production while not operating the cogeneration turbine, reported separately.”

Since review of the NOC application and file documents revealed no clear statement regarding averaging period, the period has been designated as monthly in condition 2.2.9.

14.0 Appendix A – Colville Lumber Facility Site Layout and Process Flow Diagram

14.1 Site Map

14.2 Process Flow Diagram